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Before the
FEDERAL COMMUNICATIONS COMMISSION
 Washington, D.C. 20554

MAY 26 1993

FEDERAL COMMUNICATIONS COMMISSION
 OFFICE OF THE SECRETARY

In the Matter of)
)
)

Amendment of the Commission's Rules)
 to Establish Rules and Policies)
 Pertaining to a Non-Voice,)
 Non-Geostationary Mobile-Satellite)
 Service)

CC Docket No. 92-76

ORIGINAL

REPLY COMMENTS OF ORBITAL COMMUNICATIONS CORPORATION

Orbital Communications Corporation ("ORBCOMM"), a subsidiary of Orbital Sciences Corporation ("OSC"), hereby submits its reply to the comments on the Commission's proposal to establish licensing and service rules for Non-Voice, Non-Geostationary ("NVNG") Mobile-Satellite Service.^{1/} A limited number of commenters, including ORBCOMM, responded to the Notice.^{2/} ORBCOMM believes that the small number of comments does not suggest a lack of interest in the service, but rather demonstrates the effectiveness of the Commission's use of a

^{1/} Amendment of the Commission's Rules to Establish Rules and Policies Pertaining to a Non-Voice, Non-Geostationary Mobile-Satellite Service, CC Docket No. 92-76, FCC 93-28, released February 10, 1993 (hereafter "Notice").

^{2/} In addition to ORBCOMM, comments were filed by five parties: dbX Corporation (dbX), Leo One Corporation (Leo One), Space Technology Services International (STSI), STARSYS Global Positioning, Inc. (Starsys), and Volunteers in Technical Assistance (VITA).

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negotiated rulemaking procedure to develop licensing and service rules for NVNG satellite service.

The negotiated rulemaking procedure allowed any interested party to attend the meetings of the Advisory Committee, and to participate fully in the functions of the Working Group. Thus, instead of being limited to comments submitted to the Commission, the negotiated rulemaking procedure provided for dynamic interaction amongst all potentially interested and affected parties. That process, utilized for the first time by the Commission in this proceeding, spurred the development of a consensus on the technical issues surrounding this new service.^{3/}

The proposed Rules set forth in the Notice closely track the recommendations of the negotiated rulemaking Advisory Committee, so that ORBCOMM was not at all surprised by the lack of controversy or comment. Indeed, ORBCOMM believes that the record now demonstrates that a negotiated rulemaking proceeding can be an effective method of lessening the Commission's need to resolve contentious issues, and thereby ease development of new service rules. ORBCOMM urges the Commission to follow through on the progress spurred by the negotiated rulemaking, and adopt final rules expeditiously. ORBCOMM also continues to request that the Commission license service providers at the same time or shortly after the Rules are adopted, which will further the

^{3/} See, Report of the Below 1 GHz LEO Negotiated Rulemaking Committee, CC Docket No. 92-76, September 16, 1992.

public interest by making this service available as quickly as possible.

The comments that were submitted to the Commission all support the development of service and licensing rules for NVNG satellite services. Three of the commenters -- dbX, Leo One and STSI -- had not participated in the negotiated rulemaking or any of the other earlier related proceedings. Those commenters are now seeking modifications to the proposed rules to ensure that they will have an opportunity to become service providers.

These parties' comments reflect their absence from the negotiated rulemaking or earlier phases of related proceedings. Much of what they are concerned with has already been extensively discussed in these other fora. In the context of the negotiated rulemaking, the three applicants submitted a sharing proposal that was an attempt by the parties with concrete proposals to develop a means of coexisting in the limited spectrum made available; it was not an attempt to freeze out future applicants, because as was made clear in the negotiated rulemaking proceeding, and as the Final Report of the Advisory Committee concluded, additional entrants may reasonably be accommodated in the spectrum that was allocated by the Commission. The sharing proposal does not accommodate only the current applicants, despite the claims of the commenters here.

ORBCOMM also observes that vigorous competition that can satisfy the Commission's general goal of supporting competition can be met with as few as two systems, although as ORBCOMM and STARSYS have shown, additional commercial systems are

possible in the spectrum that the Commission allocated to this service. In addition, competition will be provided by various other terrestrial and geostationary satellite services. Thus, the proposed Rules adequately address competition, and no further modifications are necessary.

As ORBCOMM and others indicated during the negotiated rulemaking, the coordination efforts among the NVNG satellite service applicants have been made difficult as a result of the fact that the intersystem sharing must occur in the context of coordination with the known and unknown current users in these bands. The bandwidth allocated for this service is not unassigned spectrum, and only a small amount of spectrum was allocated.^{4/} Moreover, as the applications already filed demonstrate, there is a wide divergence in critical aspects of system design, including modulation techniques, number of spacecraft, station keeping capabilities, and altitude of the satellites. In such an environment, it is not possible in the abstract to attempt to calculate a "theoretical envelope" as to how many LEO "systems" could be provided, although several alternatives were presented to accommodate one or more additional systems.

The proposed Rules expressly indicate, moreover, that the licensees have an obligation to coordinate with other

^{4/} ORBCOMM also views the upcoming World Radio Conferences, set for 1993, 1995 and 1997, as opportunities for additional global allocations of spectrum for NVNG satellite services. ORBCOMM urges these other commenters to join in seeking such additional global allocations.

licensees and applicants,^{5/} and nothing in the proposed Rules stands as a barrier to additional applications. The record developed in the negotiated rulemaking proceeding, in combination with the proposed Rules, makes clear that there will be an opportunity for those commenters to seek licenses. Thus, these three commenters' requests for opportunities for access have been accommodated.

In addition to the generalized entry concerns of the three non-applicant commenters, these parties also had some more specific comments that require a response. STSI wants the Commission to allow access to "foreign owned and operated" satellite systems. The Commission in this proceeding or elsewhere has never specifically addressed the issue of the appropriate authority or authorities to govern licensing of low-Earth orbit satellites, which overfly many different nations.^{6/} It may be that the Commission would want to license (and retain regulatory authority over) any low-Earth orbit satellites that will be transmitting in the U.S.^{7/} STSI is certainly free to seek U.S. licenses for LEO satellite systems that are "foreign

^{5/} See proposed Section 25.142(b)(3). Thus, dbX's request that such an obligation be specified in the Rules (Comments at p. 8) has already been met.

^{6/} In a somewhat analogous situation, the Commission does license U.S. earth stations to operate with foreign satellites, such as the recent licensing of stations to operate with Russian satellites, and the longstanding FCC licensing of U.S. earth stations to operate with the INTELSAT satellites.

^{7/} Cf., Newcomb Communications, Inc., DA 93-574, released May 24, 1993 at n. 16 (application required to use in-orbit capacity, citing to requirement of fees for construction and launch in order to utilize in-orbit satellites).

owned and operated." Even if the Commission does not require U.S. licensing of such systems, at the very least, the Commission should insist that any "foreign-owned" low-Earth orbit satellite systems are properly coordinated and operate in conformity with U.S. technical standards as prerequisites to licensing earth stations or user transceivers to operate with those systems.

In its comments, dbX proposes to limit access by any applicant to spectrum to prevent "warehousing" or a "land rush." The dbX comments reflect a lack of understanding of satellite systems. In the terrestrial wireless marketplace where dbX gained its experience, it is relatively easy to increase capacity by modifying the transmitters or adding more transmitters; in a low-Earth orbit satellite system, the satellites, once launched, cannot be readily modified. Moreover, particularly for a new service such as NVNG, the satellites take several years to design and construct, and cannot merely be purchased "off the shelf." Thus, the dbX proposal to limit the spectrum assigned to the licensee, with additions only upon a showing of "sufficient traffic fill," will not work in a low-Earth orbit satellite environment, and should be rejected by the Commission.

In addition, the particular tests proposed by dbX -- requiring a demonstration that 70% of its available capacity has been filled during two consecutive reporting periods -- is also vague and infeasible. As an initial matter, ORBCOMM observes that dbX's proposal does not specify that measurements are to occur during peak periods, which are what the system capacity must be designed to meet. Any such measurement would also be

exceedingly complex, since the peak periods will vary by region, with different satellites experiencing different peaks. In addition, dbX does not specify whether such measurements are only to be taken with respect to U.S. traffic, although the satellites will be overflying the rest of the world as well.^{8/} For all of these reasons, the Commission should reject the dbX proposal.

Leo One seeks in its comments to have the Commission meet its "international obligations" to provide "equitable access" for all Administrations. As discussed above, the sharing plan discussed during the negotiated rulemaking can accommodate additional entrants. The ITU procedures reflected in COM 46, moreover, clearly define how access to the available spectrum is to be equitably distributed among Administrations, which is on a "first come, first served" basis depending on international registration. Leo One provides no grounds for the Commission to depart from that well-understood and well-accepted process, in order to reserve or set aside access for particular foreign nations, particularly when any such additional systems are purely speculative at this point in time. To the extent that Leo One believes that there has been inadequate spectrum allocated to this service on an international basis, it (and any Administrations it has relations with) can work at the upcoming

^{8/} In addition, ORBCOMM observes that even assuming the 70% fill factor would be only for the peak hour, such a percentage is inconsistent with standard engineering, which utilizes a significantly lower busy time factor for circuits to minimize queuing delays.


World Radio Conferences to seek additional global allocations for low-Earth orbit satellite services.

Comments were also filed by the other NVNG satellite service applicants, VITA and Starsys. These parties, like ORBCOMM, generally supported the proposed licensing and service Rules. VITA also seeks some modifications to the Rules to accommodate small systems like the one it proposed. ORBCOMM recognizes the special humanitarian nature of VITA, but suggests that instead of attempting to craft two sets of Rules, one to apply to small systems (defined as less than five satellites) and another set for more robust systems, the Commission should adopt a single set of Rules, but provide VITA with waivers, as necessary. In this manner, the unique characteristics of VITA can be recognized, without complicating the Rules unnecessarily.

Starsys' comments were similar to those of ORBCOMM and supported the Commission's proposed Rules, including the incorporation of flexibility regarding technical matters and regulatory treatment as a private or common carrier, at the option of the licensee. Starsys also requested that the Commission modify the proposed Rules to incorporate a renewal expectancy, a position advocated by ORBCOMM in its comments. In addition, Starsys seeks miscellaneous changes, including an expansion of the time for qualifying financially, and a clarification of the retransmission limitations of Section 25.142(a)(3). ORBCOMM has no objection to any of these proposals submitted by Starsys.

In sum, ORBCOMM believes that the comments received in this proceeding, as well as the extensive record developed in the related negotiated rulemaking proceeding, support the prompt adoption of the licensing and service Rules proposed in the Notice, as modified by the suggestions of ORBCOMM and Starsys. Such action by the Commission will successfully conclude the negotiated rulemaking procedure employed here, and well serve the public interest.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I, Laura E. Magner hereby certify that on the 26th day of May, 1993, a true copy of the foregoing Reply Comments of Orbital Communications Corporation was mailed, postage prepaid, to the following:

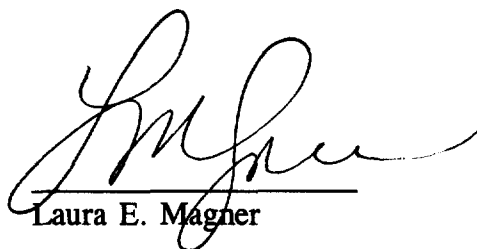
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